IN THE CLAIMS

Please amend the claims as follows.

For the Examiner's convenience, a list of all claims is included below.

1. (Currently Amended) A computer-implemented decision support method for two or more pre-defined criteria and two or more profiles, each criterion comprising two or more pre-defined and ordinally ranked categories, each profile comprising a set of two or more of the criteria, each criterion in the set associated with one of the categories for that criterion, the method comprising:

performing a comparative assessment of profiles, wherein the comparative assessment comprises an ordinal pairwise ranking of profile pairs, ordinal pairwise ranking of profile pairs comprising:

generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile;

presenting the undominated profile pairs to a decision maker for ordinal pairwise ranking;

receiving from the decision maker an ordinal pairwise ranking of the profiles; and

identifying profile pairs that are implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and excluding the profile pairs from subsequent presentation to the decision maker;

the decision support method further comprising:

solving a system of equalities/inequalities that represents the ordinal pairwise rankings of profile pairs to obtain at least one output, the at least one output including a point value for each

category on each criterion, a ranking of all possible profiles, or a ranking of a subset of all possible profiles.

2.-5. (Canceled)

6. (Previously Presented) The computer-implemented decision support method of claim 1 wherein the step of generating undominated profile pairs comprises:

generating undominated profile pairs with z criteria for each profile, wherein z is a number greater than or equal to two and less than or equal to the number of possible criteria.

7. (Previously Presented) The computer-implemented decision support method of claim 6 wherein the ordinal ranking of profile pairs is repeated for at least one other value of z, and wherein for any other value of z, the step of generating undominated profile pairs is followed by a step of excluding profile pairs that are pairwise ranked as corollaries of the ordinal pairwise rankings performed for any previous value of z.

8. (Previously Presented) The computer-implemented decision support method of claim 6 wherein the step of generating undominated profile pairs with z criteria for each profile comprises:

taking all combinations of all of the criteria, z criteria at-a-time; and

for each combination of the criteria, pairing it with a replica of itself to form a pair of combinations of the criteria; and

for each pair of the combinations of the criteria, associating the criteria with all combinations of the pre-defined categories for the criteria in the pair to form all unique undominated profile pairs with z criteria possible from each pair of the combinations of the criteria.

9. (Previously Presented) The computer-implemented decision support method of claim 8 wherein the step of, for each pair of the combinations of the criteria, associating the criteria with all combinations of the pre-defined categories for the criteria in the pair, comprises the steps of:

listing the numbers between 1 and $2^{z-1} - 1$ in binary form using z bits as a list of first z-tuples, and pairing each first z-tuple with a further ordered z-tuple of bits, wherein each '0' or '1' of the further ordered z-tuple is the complement of each of the original z bits of the first z-tuple, to form $2^{z-1} - 1$ pairs of ordered z-tuples of bits; and

for each pair of ordered z-tuples of bits, generating an undominated profile pair by defining each of the z criteria of a first profile in the pair according to the relative magnitudes of the bits in the first z-tuple and defining each of the z criteria of the second profile in the pair according to the relative magnitudes of the bits in the further z-tuple.

10. (Previously Presented) The computer-implemented decision support method of claim 1 further comprising the step of excluding undominated profile pairs that are theoretically impossible.

11. (Previously Presented) The computer-implemented decision support method of claim 1 wherein the step of generating undominated profile pairs further comprises the step of:

generating all possible undominated profile pairs that are consistent with a pre-defined subset of all possible profiles, and storing them on a temporary list;

and wherein the decision support method further comprises the steps of:

when an ordinal pairwise ranking of profile pairs is received from the decision maker, removing all members of the temporary list that are implicitly ordinally pairwise ranked as corollaries of any ordinal pairwise rankings of profile pairs already performed; and

when the temporary list is empty, solving the system of equalities/inequalities representing the ordinal pairwise rankings to rank the pre-defined subset of profiles.

12. (Previously Presented) The computer-implemented decision support method of claim 1 wherein the step of generating undominated profile pairs further comprises the step of:

generating all possible undominated profile pairs that are consistent with a pre-defined subset of all possible profiles, and storing them on a temporary list;

and wherein the decision support method further comprises the steps of:

when an ordinal pairwise ranking of profile pairs is received from the decision maker, removing all members of the temporary list that are implicitly ordinally pairwise ranked as corollaries of any ordinal pairwise rankings of profile pairs already performed; and

solving the system of equalities/inequalities representing the ordinal pairwise rankings to rank the pre-defined subset of profiles and designating profiles that cannot be ranked below any other profile as top-ranked profiles;

wherein the process of ordinal pairwise ranking is halted once the temporary list contains no undominated profile pair for which one profile in the pair is one of the top-ranked

profiles and the other profile in the pair is not a top-ranked profile, and the number of top-ranked profiles is less than or equal to a required number of top-ranked profiles.

13. (Previously Presented) The computer-implemented decision support method of claim 1 wherein the step of identifying undominated profile pairs that are implicitly ordinally pairwise ranked as a corollary of ordinal pairwise rankings already performed comprises repeating, for each undominated profile pair not yet presented to the decision maker, the steps of:

imposing a strict ordinal ranking of the profiles in the profile pair, and including the resulting inequality with the system of equalities/inequalities that represents the ordinal pairwise rankings of profile pairs already performed; and

testing the system of equalities/inequalities for the existence of a solution in terms of point values,

wherein if a solution does not exist, then the profile pair is identified as implicitly ordinally pairwise ranked as a corollary of ordinal pairwise rankings already performed but wherein, if a solution does exist, then the method further comprises the steps of:

for the same profile pair, imposing a reverse strict ordinal ranking of the profiles in the profile pair, and including the resulting inequality with the system of equalities/inequalities representing the ordinal pairwise rankings of profile pairs already performed; and

testing the system of equalities/inequalities for the existence of a solution in terms of point values,

wherein if a solution does not exist, then the profile pair is identified as implicitly ordinally pairwise ranked as a corollary of ordinal pairwise rankings already performed, but

wherein if a solution does exist, then the profile pair is identified as not implicitly ordinally pairwise ranked as a corollary of ordinal pairwise rankings already performed.

14. (Currently amended) A decision support system comprising:

a data memory having stored thereon two or more pre-defined criteria, each criterion capable of being associated with two or more pre-defined and ordinally ranked categories; and

a processor coupled to the data memory, the processor configured to perform a comparative assessment of profiles, each profile comprising a set of two or more of the criteria, each criterion in the set-associated with one of the categories for that criterion, wherein the comparative assessment comprises the ordinal pairwise ranking of profile pairs, the ordinal pairwise ranking of profile pairs comprising:

generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile;

presenting undominated profile pairs to a decision maker on a display;

receiving from the decision maker via an input device an ordinal ranking of the profiles in each profile pair presented on the display; and

identifying profile pairs that are implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and excluding the profile pairs from subsequent presentation to the decision maker;

wherein the processor is further configured to solve a system of equalities/inequalities that represents the ordinal pairwise rankings to obtain at least one output, the at least one output

including a point value for each category on each criterion, a ranking of all possible profiles, or a ranking of a subset of all possible profiles.

15.-40. (Canceled)

41. (New) A decision support system comprising:

a data memory having stored thereon two or more pre-defined criteria, each criterion capable of being associated with two or more pre-defined and ordinally ranked categories; and

a processor coupled to the data memory, the processor configured to perform a comparative assessment of profiles, each profile comprising a set of two or more of the criteria, each criterion in the set-associated with one of the categories for that criterion, wherein the comparative assessment comprises the ordinal pairwise ranking of profile pairs, the ordinal pairwise ranking of profile pairs comprising:

generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile;

presenting undominated profile pairs to a decision maker on a display;

receiving from the decision maker via an input device an ordinal ranking of the profiles in each profile pair presented on the display; and

identifying profile pairs that are implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and excluding the profile pairs from subsequent presentation to the decision maker;

wherein the processor is further configured to solve a system of equalities/inequalities that represents the ordinal pairwise rankings to obtain at least one output, the at least one output including a point value for each category on each criterion, a ranking of all possible profiles, and a ranking of a subset of all possible profiles.

42. (New) A computer-implemented decision support method for two or more pre-defined criteria and two or more profiles, each criterion comprising two or more pre-defined and ordinally ranked categories, each profile comprising a set of two or more of the criteria, each criterion in the set associated with one of the categories for that criterion, the method comprising:

performing a comparative assessment of profiles, wherein the comparative assessment comprises an ordinal pairwise ranking of profile pairs, ordinal pairwise ranking of profile pairs comprising:

generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile;

presenting the undominated profile pairs to a decision maker for ordinal pairwise ranking;

receiving from the decision maker an ordinal pairwise ranking of the profiles; and

identifying profile pairs that are implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and excluding the profile pairs from subsequent presentation to the decision maker;

the decision support method further comprising:

solving a system of equalities/inequalities that represents the ordinal pairwise rankings of profile pairs to obtain at least one output, the at least one output including a point value for each category on each criterion, a ranking of all possible profiles, and a ranking of a subset of all possible profiles.